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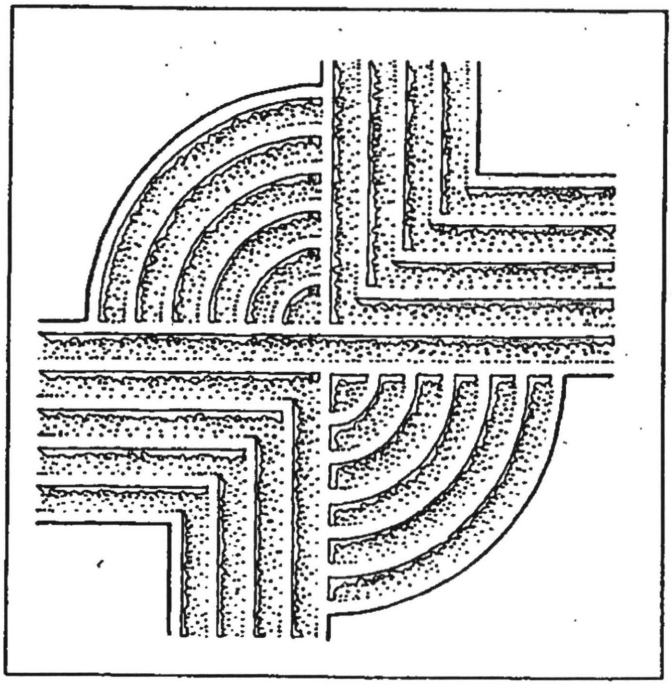

RESEARCH CONTRIBUTION 10

ETHNOBOTANICAL ANAYALSIS OF SAMPLES FROM THE AIKEN-RHETT HOUSE, CITY OF CHARLESTON, SOUTH CAROLINA

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Chicora Research Contribution 10

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Introduction

During October 1985 archaeologists with The Charleston Museum conducted test excavations at the Aiken-Rhett house in downtown Charleston, South Carolina. This structure,constructed in 1817- 1818, is an excellent example of an antebellum planter's Charleston townhouse. Originally built by John Robinson, a wealthy Charleston merchant, the house was acquired by William Aiken, Sr. in 1826 and remained in the Aiken-Rhett family until 1975 when it was donated to The Charleston Museum.

While the structure is listed on the National Register of Historic Places, the Museum has conducted archaeological testing in the rear service yard in order to assess the nature and integrity of the archaeological components. A total of 225 square feet (three 5 by 10 and two 5 by 5 foot units) were excavated in the rear yard. The bulk of the nineteenth century deposits were found in Zone 2, which consists of mottled gray, tan, and yellow sands. Zone 3, found only along the eastern side of the courtyard, consists of similar sands, but dates to the early nineteenth century.

Five features were identified by the Museum work and are examined in this study. Feature 2 consists of the fill associated with brick-lined drains, Feature 5 is an indeterminant pit, Feature 6 is a ditch or builder's

trench, Feature 7 is an indeterminant circular pit, and Feature 12 is a brick rubble filled pit which probably represents the debris from the now collapsed cow shed. In addition, a single postmold, a slump area (Area A), and a variety of levels within Zones 2 and 3 were available for study.

Charcoal was handpicked from both the excavations and the 1/4-inch waterscreen. A series of 13 such samples were submitted for analysis. In addition, a series of four soil samples, ranging in size from 5 to 15 gallons, were collected for flotation. These samples were floated by the Museum staff subsequent to the fieldwork. Flotation samples were submitted from Feature 2, Zone 2 of Test Pit 1, and Area A of Test Pit 1.

Major issues investigated by the archaeological work include nineteenth century upper class subsistence strategies, site formation processes at a solely domestic site within a suburban area, and comparison of urban to rural antebellum planter's sites. It, however, is difficult to separate antebellum and postbellum ethnobotanical remains with any accuracy. It is likewise difficult to separate the high status planters' remains from the lower status slaves' remains because of the close proximity of the two groups at the Aiken-Rhett site. With these potential limiting factors in mind, the first goal of the ethnobotanical study is to assess the site's ethnobotanical potential. This is intended to insure future research at the Aiken Rhett site maximizes data recovery. A second goal is to isolate plant foods and plant food remains, if present, in order to contribute to a better understanding of the Charleston urban subsistence system. This will assist in the comparison of urban to rural sites. The third goal is to isolate non-food plants from the Aiken-Rhett assemblage. Specific

attention is to be paid to the identification of seeds, which may shed light on the nature of the "working garden" prehaps present in the service yard. The fourth goal is to continue research on the wood species used as fuel in Charleston and the ratio of wood charcoal to coal. I have previously suggested that the woods used for fuel might vary by status group (Trinkley 1983b, 1985a) or by function (heating vs. cooking, for example) (Calhoun et al. 1984). In addition, there appears to be a gradual replacement of wood by coal through the nineteenth century at urban Charleston sites.

Procedures and Results

The four flotation samples were prepared in a manner similar to that described by Yarnell (1974:113-114) and were examined under low magnification (7 to 30x) to identify carbonized plant foods and food remains. Remains were identified on the basis of gross morphological features and seed identification relied on U.S.D.A. (1948, 1971), Martin and Barkley (1961), and Montgomery (1977). The flotation sample from Feature 2 (brick drainage system) consisted of 15 gallons, the samples from Test Pit 1, Zone 2 (levels 2 and 3) were both 10 gallons, and the sample from Area A within Test Pit 1 consisted of 5 gallons. The results of these analyses are provided in Table 1.

Wood charcoal is the dominant component of each sample, except from Area A, ranging from 55.6 to 80% by weight. The Area A sample is anomalous in that it contains a high incidence of soil and noncarbonized debris (primarily roots). The only food remains represented are a single grape (Vitis sp.) seed and hickory nutshell fragments from the third level

Provenience	Wood Charcoal wt	%	Shell wt	%	Stone/ Soil wt	%	Uncarb. Organic wt	%	Plant Foods Acorn wt	%	Hickory wt	%	Seeds wt	%	total	seeds
TP1, Z2, L2	11.13	71.2					4.50	28.8							15.63	
TP1, Z2, L3	11.60	80.0					2.83	19.5			.07	0.5	t	-	14.50	1 grape
TP1, Area A	12.00	26.4			4.33	28.6	6.81	45.0							15.14	
TP1, Fea. 2	16.57	55.6	.08	0.3	.16	0.5	12.94	43.4	.05	0.2					29.80	

t = trace

Table 1. Flotation sample components, weight in grams.

of Zone 2 in Test Pit 1, and acorn shell from Feature 2. These remains do not constitute a significant portion of the samples and may represent accidental inclusions in the archaeological record. The 10 to 15 gallon samples appear to have yielded samples of a size sufficient to reject sample size as the explanation for the absence of plant foods or food remains.

The handpicked samples also were examined under low magnification (7 to 30x) with larger pieces of wood charcoal identified, where possible, to the genus level, using comparative samples, Panshin and de Zeeuw (1970), and Koehler (1917). Wood charcoal samples were broken in half to expose a fresh transverse surface. The results of this analysis are shown in Table 2, which is organized by provenience.

The wood charcoal from the site is primarily pine (Pinus sp.), although small quantities of hickory (Carya sp.), maple (Acer sp.), and cedar (Juniperus virginiana) are also identified. In addition, oak (Quercus sp.) is a strong component, being found in seven of the 12 samples (58%) and dominant in two collections (17%). Pine, in comparison, is found in 11 samples (92%) and is dominant in 6 (50%). Rosin, probably from pine wood, is found in four samples. Although no plant foods or food remains were found in the hand picked samples, a single plant part, resembling a tuber fragment, was found from Test Pit 1, Zone 2, Level 2.

Coal is found in six of the 12 collections (50%), apparently spanning the nineteenth century use of the site. It is abundant, however, only in Feature 7. Unfortunately, the collection of coal at the Aiken-Rhett excavations was not standardized; it is likely that coal was selected against, significantly reducing its abundance in the study material.

Provenience	*Quercus* sp.	*Pinus* sp.	*Carya* sp.	*Acer* sp.	*Juniperus virginiana*	rosin	UID wood	diffuse porous wood	coal	UID plant part	animal bone
TP 1, Z 2, L 2	p	+					t	t	t	t	t
TP 1, Z 2, postmold 2		+	t	t							
TP 1, Z 2, profile	+			t			t		t		
TP 1, Z 2, L 3	p	+				p			t		
TP 1, Z 2, L 4	+	t					t				
TP 1, Fea 5	t	+							t		t
TP 1, Fea 6	t	t				+					t
TP 1, Fea 7		t					t		+		
TP 4, Z 3		+									
TP 5, Fea 12		+			t						
TP 6, Z 3	p	+				t			t		
Trench 1, Z 2		p				p					

+ = abundant. p = present, t = trace

Table 2. Analysis of handpicked charcoal samples from the Aiken-Rhett site.

Discussion

The ethnobotanical remains from the Aiken-Rhett rear yard provide only limited information regarding the use of plant foods. Of the three potential plant food remains, grape, hickory nut, and acorn, only the grape is likely to have been a food item. Reese comments that "next to the pineapple, grapes, . . . have always been considered the most delicious fruit for dessert" and "used as a food, grapes are extremely nutritive in general, and very wholesome if quite ripe" (Reese 1847:506-507). While grapes are most frequently associated with wines, it is clear that they were an integral part of "polite" dining (see Cummings 1970:41) Olmsted (1953:62) even notes them dried at a Virginia farmstead in 1852. Although a 1796 cookbook suggests that grapes "grow fpontaneoufly" and that "trifling attention is only neceffary for their ample growth" (Simmons 1984:17), this view is not supported by Youman (1873:133-134) or Hilliard (1972:179-182). It is unlikely that Aiken grew grapes in the city; they were probably acquired from nearby rural plantations, or perhaps from his own plantation, Jehossee, on Edisto Island.

Both hickory nuts and acorns may be a wild food item or supplement to the diet (Hilliard 1972). Lawson, a century earlier than Aiken, remarked that the "[h]iccory Nuts have . . . excellent sweet Kernals" which taste "as well as any Almond" (Lefler 1967:105). The nuts, however, are not found in cookbook dishes, nor are they particularly noted as medicinal plants (Millspaugh 1974; cf. Morton 1974:125-126, 134). The occurrence of these items is so sparse at the Aiken-Rhett site that they probably represent accidental inclusions.

The woods at the Aiken-Rhett site are dominated by pine, typical of all Charleston area sites thusfar studied, including First Trident (Trinkley 1983a), Lodge Alley (Trinkley 1983c), and Archdale (Trinkley 1985a). For only the second time in the study of Charleston ethnobotanical collections is a hardwood a strong component of the studied collection. The other example is the eighteenth century Beef Market site, where hickory and oak species were common (Calhoun et al. 1984:90-91).

I have previously suggested that the woods used for fuel will vary by status group (Trinkley 1983b, 1985a). Reeves notes that,

> the heavy and dense woods give the greatest heat, burn the longest, and have the densest charcoal. To the dense woods belong the oak . . . to the soft . . . the pine of different sorts (Reeves 1847:116).

Thus, it was clearly recognized by the mid-nineteenth century that hardwoods would provide a better fire. The presence of hardwoods at the Aiken-Rhett house, given Aiken's wealth, should be no surprise. Certainly he enjoyed sufficient prosperity either to purchase the better woods, or have them cut from his own plantation. More surprising is the quantity of pine present in spite of Aiken's wealth.

The softwood may represent wood provided for the slave quarters, or may have been used for cooking where the quality of the wood may have been less significant. In this regard Reeves (1847:116) suggests that pine made into fagots, which would burn with "a strong and quick heat," may have been used to heat ovens for the baking of breads.

Of equal significance to the understanding of fuel consumption in

suburban Charleston is the depletion of wood which was noticeable by the mid-eighteenth century. Weir remarks that,

> [h]auled in from a distance, fuel was becoming increasingly expensive in Charles Town by the end of the Colonial period. Some residents therefore burned imported coal, and many complained about the price of wood (Weir 1983:44).

Reeves, by the mid-nineteenth century, remarked that,

> [w]ood makes a very cheerful fire, from its abundant and bright flame; but it consumes quickly, and requires often renewing: on this account it is expensive, and the labor necessary to prepare it is also very considerable . . . . It has the advantage of kindling readily, but affords an unsteady heat (Reeves 1847:116).

He further notes that wood, in Britain, is used only by the poorer classes. Those of the middle and upper class" use coal, whose "superiority . . . over every other combustible, for domestic as well as many other purposes, is now generally acknowledged" (Reeves 1847:119).

Accounts of coal use in Charleston are less well researched, although there are numerous advertisements for peach orchard red ash, orrel, Liverpool, Newcastle, "Stone Hinge," and Smith's coal in the Charleston newspapers during the mid-nineteenth century (Jeanne Calhoun, personal communication 1985). At least three coal yards were in business, including

H.F. Baker at 173 E. Bay, J.S. Ryan at the corner of E. Bay and Fitzsimon's Wharf, and P.W. Knapp at Cumberland near Church Street. Prices at this time were from $6 to $7 per ton and apparently both the caking or bituminous and anthracite coals were available.

The coal found archaeologically from the Aiken-Rhett house is anthracite and represents small, unburned waste fragments. Reeves notes that,

> [w]hen coals are dug they are liable to be broken more or less; hence there is always a quantity of fragments, which constitute the small coal. When the coal is bituminous and of the best kind, this small coal is useful, as it will cake together . . .; but when the coal is little bituminous . . . this small coal does not cake, and it is then of little value. It is customary . . . to separate the large from the small by screening; and the small is sold at a much lower rate, under the name of slack. It is no uncommon thing for dishonest dealers to mix some of this slack with good coals, though some of it is scarcely combustible (Reeves 1847:120).

Coal functioned not only for heating (Reeves 1847:93-98), but also for cooking when used with a stove (Reeves 1847:808-820). Coal, however, required the use of wood kindling, so that even if both heating and

cooking were primarily through the use of coal, the use of wood remained essential (Reeves 1847:120).

Summary

This ethnobotanical study has revealed that the Aiken-Rhett site does contain carbonized plant remains. Flotation samples of at least 15 gallons of soil are the best producers of charcoal and will yield more reliable collections than smaller soil samples. Handpicked samples, while providing data on wood use and the presence of coal, are poor producers of food remains and are easily biased by incomplete recovery. Future work should emphasize the recovery of flotation samples and the uniform sampling of waterscreened material for the recovery of charcoal and coal.

The Aiken-Rhett site has yielded little information concerning the use of plant foods in Charleston, in spite of several large flotation samples. At rural sites the recovery of carbonized plant food is more common (Trinkley 1983b, 1985b), which suggests several factors may be responsible for the scarcity of plant foods at urban sites, including both preparation techniques and disposal practices. These aspects of the urban environment have been discussed by Zierden and Trinkley (1984) and Trinkley et al. (1985). The study at Aiken-Rhett also failed to reveal any indication of seeds from rear yard plantings. Based on the limited opportunities for carbonization, however, it is probable that much larger samples would be required to adequately address the ethnobotanical identification of a "working garden." At present, there are no plant seeds which would support a "working garden" hypothesis.

More success was had in delimiting fuel wood types and the use of

coal, although the study was hampered by collection bias. The presence of higher status hardwoods is noted in the collection, although the lower status pine is still quite common. Coal is almost certainly more common at the Aiken-Rhett site than the collections suggest, because coal was selected against in the handpicked collections. It is probable, given the wealth and status of Aiken, that coal was used more commonly for both heating and cooking than wood, but that wood remained necessary for certain tasks, such as kindling and possibly baking. Additional research at the Aiken-Rhett house should be designed to pursue the topic of wood and coal use by wealthy nineteenth century Charlestonians.

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